

L 00241-66

ACCESSION NR: AP5018222

the experimental part of the work." Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Pracownia Fizyki i Ultradźwięków, Instytut Medycyny Pracy w Przemysle Węglowym i Hutniczym, Zabrze (Laboratory of Physics and Ultrasound, Institute of Medical Practice in the Coal and Iron Industry)

SUBMITTED: 17Jun64

ENCL: 00

SUB CODE: LS

NO REF SOV: 000

OTHER: 006

dg
Card

2/2

GZHESEYUK, S.

"The Importance of the Intensity of Light on the Development of Millet." Cand Biol Sci, Leningrad Agricultural Inst, Leningrad, 1954. (RZhBiol, No 6, Mar 55)

SO: Sum No. 670, 29 Sep 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

Poland/Chemical Technology -- Chemical Products and Their Application. Silicates.
Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 1656

Author: Gzhimek, J.

Institution: None

Title: General Notes on the History of Cements and Their Application in
Construction

Original

Periodical: Cement. Wapno. Gips, 1954, Vol 19, No 5, 90-106; Polish

Abstract: A short discussion of different types of cements and of their classification is given together with a review of the history of the application of cements in construction. The future perspectives for the development of the production of construction cements in Poland are discussed in great detail.

Card 1/1

GZHIMEK, J. ~~VEZNI~~

I-12

USSR /Chemical Technology. Chemical Products
and Their Application

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31644

Author : Gzhimek Vezni

Title : Significance of External Structure of Alite
Crystals in Portland Cement in Connection
with Accelerated and Wintertime Building

Orig Pub: Tr. Soveshchaniya po khimii tsementa. M., Prom-
stroyizdat, 1956, 27-41

Abstract: The rate of hardening of cement depends on
surface development of alite crystals (AC)
and their linear dimensions. Decrease in

Card 1/4

USSR /Chemical Technology. Chemical Products
and Their Application

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31644

dimensions of AC and their corresponding shape affect the intensity of cement hardening during the very first days. Production of AC of the required size and shape depends on a number of factors and, in particular, on addition of mineralizers and the rate of cooling of the clinker. It is desirable that the size of AC be less than 15μ and the ratio of geometrical axes be equal to 2. The method used in Poland for the production of rapidly hardening cement (RHC) consists in calcination of marl, having a high content of Al_2O_3 , in admixture with lime-

Card 2/4

USSR /Chemical Technology. Chemical Products
and Their Application

I-12

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31644

stone. The resulting mixture of $\text{CaO} \cdot \text{Al}_2\text{O}_3$ and C_2S disintegrates into a very fine powder due to a transition of C_2S from beta-form into gammaform. $\text{CaO} \cdot \text{Al}_2\text{O}_3$ is removed and after concentration it is utilized for the production of a number of valuable products. The residue, consisting of fine crystals of C_2S , constitutes the starting material for the production of RHC. Formulas are proposed for the determination of the following quantities: dependence of change in external shape of AC on degree of supersaturation of the crystallizing solution and

Card 3/4

USSR /Chemical Technology. Chemical Products
and Their Application

I-12

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31644

the nature of crystal lattice; strength value of
the mortar after 24 hours and value of heat
generation in the cement depending on dimensions
and shape of AC.

Card 4/4

L 6536-66 EWT(1)/FS(7)-3 DD

ACC NR: AP5027168

SOURCE CODE: PO/0056/65/016/005/0727/0737

AUTHOR: Jozkiewicz, S. — Yuzkevich, S. (Professor, Doctor, Director); Puchalik, M. — Pukhalik, M. (Professor, Doctor, Director); Cygan, Z. — Tsygan, Z.; Drozd, M. — Drozd, M.; Gregorczyk, J. — Gregorchik, Ya.; Grzesik, J. — Gzhesik, Ya.; Krzoska, K. — Kshoska, K.; Lewandowska-Tokarz, A. — Levandovska-Tokazh, A.; Stanosek, J. — Stanosek, Ya.; Zak, T. — Zhak, T.

ORG: Institute of Physiological Chemistry, Silesia AM, Zabrze-Rokitnica (Zaklad Chemii Fizjologicznej Sl. AM); Institute of Medical Physics, Silesia AM, Zabrze-Rokitnica (Zaklad Fizyki Lekarskiej Sl. AM)

TITLE: Investigation of the effect of sonic and ultrasonic fields on biochemical processes.
IX. Effect on some blood components in men working under noisy conditions

SOURCE: Acta physiologica polonica, v. 16, no. 5, 1965, 727-737

TOPIC TAGS: human physiology, working condition, man, medical experiment, biologic vibration effect, sound, ultrasonic field, acoustic biologic effect

ABSTRACT: The levels of blood glucose, pyruvic acid, ascorbic acid, proteins, protein fractions, nonprotein nitrogen, phospholipid phosphorus, and the activities of aminotransferase and aldolase were determined in 80 persons to study the effect of noisy working conditions on the workingman. The test subjects were employed in a large industrial establishment

Card 1/2

0701 2230

L 6536-66

ACC NR: AP5027168

and exposed to vibration and noise. All were in relatively good health. The control group consisted of workers in the same factory, but not exposed to a noisy environment. The results showed the following: a decrease in blood sugar, phospholipid phosphorus, and ascorbic acid; an increase in protein, albumin, and nonprotein nitrogen. The gamma globulin, however, showed a decrease. There was a slight increase in aspartic aminotransferase and alanine aminotransferase, and a slight decrease in aldolases. The results of determinations of other components studied, different from those in guinea pigs, are discussed. Orig. art. has: 9 tables.

SUB CODE: PH, LS / SUBM DATE: 09Nov64 / ORIG REF: 000 / OTH REF: 021

rw
Card 2/2

GGIB 00001, R.W.

Change in the quantity of chlorides in the blood and urine
following stomach secretion. Soob. AN Cruz. 38 no.2:
449-456 by '6'. (HRA 18:9)

GZHIISKIY, S. Z., Prof.
L'vov State Vet. Inst.

"Modification of blood components in encephalomyelitis of horses."

SO: VET. 26 (6) 1949, p. 39

LAZARENKO, A.S., redaktor; GZHITS'KIY, S.Z., redaktor; KIYAK, G.S., redaktor;
KOZIY, G.V., dektor biologichnikh nauk, redaktor; BARANETS'KIY, S.P.,
kandidat s.-g. nauk, redaktor; STRAUTMAN, F.I., kandidat biol.nauk,
redaktor; TATARINOV, K.A., redaktor; POLYAKOV, M.I., redaktor;
RAKHLINA, N.P., tekhnicheskij redaktor.

[Biochemistry of farm animals] Biokhimiia sil's'kohospodars'kykh
tvaryn. Kyiv, 1953. 58 p. [Microfilm]. (MIRA 9:6)

1.Akademiya nauk URSR, Kiev. Institut agrobiologii.2.Chlen-korespen-
dent AN URSR (for Lazarenko, Gzhits'kiy, Kiyak).
(Physiological chemistry) (Veterinary physiology)

LAZARENKO, A.S., redaktor; GZHITS'KIY, S.Z., redaktor; KIYAK, G.S., redaktor; KOZIY, G.V., doktor biologichnikh nauk, redaktor; BARANETS'KIY, S.F., kandidat sil'sko-gospodars'kikh nauk, redaktor; STRAUTMAN, F.I., kandidat biologichnikh nauk, redaktor; TATARINOV, K.A., redaktor; MAKSYMENKO, O.I., redaktor; RAKHLINA, N.P., tekh-redaktor.

[Studying characteristics of the use of fertilizers in the western provinces of the Ukrainian S.S.R.] Vyvchennia osoblyvosti sastosuvannia dobryv u zakhidnykh oblastiakh Ukraini'koi RSR. Kyiv, Vydvo Akademii nauk Ukraini'koi RSR, 1953. 103 p. (MIRA 8:2)

1. Chlen-korrespondent AN Ukrainskoy RSR (for Lazarenko, Gzhits'kiy, Kiyak) 2. Akademiya nauk URSR, Kiev.
(Ukraine--Fertilizers and manures)

GZHITSKIY, S. Z.

9721
The diastase and phosphate fluctuations in the blood of farm animals after the administration of sugar. S. Z. Gzhitskiy and A. A. Turevskiy. *Biokhim. Svi'shchyns'k. Tsvet* (Kiev. Akad. Nauk. Ukr. S.S.R.) 1953, 47-51. (In Ukrainian; Russian summary). *Russk. Zhur. Akad. Biol. Khim.* 1957, No. 5190. -- Dogs were used as representing animals with a high diastatic index and horses as animals with a low diastatic index. The rate of assimilation of glucose and of sucrose in both was investigated. It was indicated that an increase in the blood sugar resulted in shifts in the diastatic indexes and in the blood inorg. phosphate content. The administration to dogs of 40 times as much sugar as to horses appeared to have no effect on the nature of the sugar curves. In the case of the horses, the season of the year, the type of fodder, and the general well-fed condition were factors which influenced the nature of the shifts in the sugar curves. B. S. Lerman

GZHITSKIY, S.Z. [Hzyts'kiy, S.Z.]; SUKHOMLINOV, B.F.; GOLOVACH, V.N.
[Golovach, V.M.]; PALFIY, F.Yu. [Palfii, F.IU.]; SKOVRONSKAYA, Ye.V.
[Skovrons'ka, IE.V]

Biochemical indices of blood in local coarse-wool sheep and their
bybrids with French Merinos. Pratsi Inst. agrobiol. AN URSR
2 pt. 1:5-12 '53. (MIRA 11:7)
(~~SHEEP~~—PHYSIOLOGY) (BLOOD—ANALYSIS AND CHEMISTRY)

GZHITSKIY, S.Z. [Hzyts'kyi, S.Z.]; SUKHOMLINOV, B.F.; PALFIY, F.Yu.
[Palfii, F.IU]

Effect of carbon tetrachloride and hexachloroethane on the amount
of fatty acids in sheep blood. Pratsi Inst. agrobiol. AN URSS
2 pt.1:13-17 '53. (MIRA 11:7)
(ANTHELMINTICS) (BLOOD--ANALYSIS AND CHEMISTRY)
(PARASITES--SHEEP)

GZHITS'KIY, S.M.

Biochemical research as a diagnostic and prophylactic method
in treating farm animals. Visnyk AN URSR 24:47-50 D '53.

(MLRA 7:3)

1. Chlen-korrespondent AN URSR.

(Veterinary medicine)

GZHITSKIY, S.Z., professor.

Pathogenesis and treatment of paralytic myohemoglobinuria in horses.
Veterinariia 30 no.8:40-43 Ag '53. (MLRA 6:8)

1. L'vovskiy gosudarstvennyy veterinarno-zootekhnicheskiy institut.

USSR

Ammonia and glutamine in blood of cows having parturition paralysis. S. Z. Gshits'ki and I. D. Golovats'ki (Vet.-Zootech. Inst., Lvov). *Ukrain. Biokhim. Zhur.* 26: 417-20 (in Russian, 421) (1954); cf. *ibid.*, 824. — In parturition paralysis the NH_4^+ content of cow blood is increased. In the beginning therapy it is lowered and the glutamine is increased. As normal health is reestablished NH_4^+ in the blood rises again. Forcing air through the udder raises the blood NH_4^+ to a lesser extent than in therapy with caffeine, which is also accompanied by a rise in glutamine.

R. S. Levjag

From Zooveterinary Inst.

GZHITS'KIY, S.Z.

✓ Biochemical studies of the blood of milk cows, S. Z. Gzhits'kiy. *Dopovidi Akad. Nauk Ukr. R.S.R.* 1955, No. 4, 302-3. — Studies were conducted over 6-7 months with 2 groups of 7 cows. The carbohydrate, fat, and protein metabolic processes in the arterial and venous bloods emanating from the lacteal glands and from the heads were investigated and also the O_2 exchange between the blood and the tissues. The periods of gestation, lactation, and dryness affect the blood chem. compn. differently. At the height of lactation the concns. of protein, amino acids, and sugars change only slightly, while the concns. of fatty acids and of lipide P are considerably increased. Carbohydrates, fats, proteins, O_2 and amino acids are absorbed from the blood by the lactating glands. The rate of absorption of fatty acids, acetone bodies, lipide P, carbohydrates and free NH_4OH depends upon the rate of milk production. This does not hold true with regard to the proteins and amino acids. The absorption of free NH_4OH by the lactating gland indicates that it is only secondarily involved in the process of metabolism. The increased consumption of O_2 by the lactating gland points to an augmentation in the oxidation-reduction processes of the cow's organism. B. S. Levine*

MD

GZHITS'KIY, S.Z.; SUKHOMLINOV, B.F.; GOLOVACH, V.M.; PUNIN, I.G.

Hematuria in cattle. Dep. AN URSR no.6:608-611 '55. (MIRA 9:7)

1.Chlen-korespondent AN URSR (for Gzhits'kiy)
(Cattle--Diseases)

GZHITSKIY, Stepan Zenonovich; ZDUN, Vsevolod Il'ich

[Fasciola hepatica, a dangerous disease of farm animals]
Fastsioloz-nebezrechne zakhvoriuvannia sil's'kohospodars'kykh
tvaryn. Kyiv, Akademiia nauk Ukrainskoi RSR, 1956. 15 p.
(MLRA 10:5)

(Liver fluke)

USSR / Diseases of Farm Animals. Diseases of Unknown Etiology R

Abs Jour: Ref Zhur-Biologiya, No 16, 1958, 74246

Author : Gzhits'kiy, S.Z.; Sukhomlinov, B.F.; Golovach, V.M.;
Pupin, I.G.; Palfiy, F. Yu.; Kusen', S.I.

Inst : Not given

Title : Course and Nature of Chronic Hematuria in Cattle

Orig Pub: Inform. byul. Nauk.-dosl. in-t zemlerobstva i
tvarinnitstva zakhidn. rayoniv URSR, 1956, vip.1, 35-36

Abstract: It is shown that the causative agent of the disease is a live organism which belongs either to fungi or protozoa, or to bacteria of cellulose fermentation. Falling into the rumen with feed, this organism survives there and secretes products of vital activity which infect the mucosa of the urinary

Card 1/2

GZHITSKIY, S.Z.[Hzyts'kyi, S.Z.]; SUKHOMLINOV, B.P.; GOLOVACH, V.M.[Holovach,
V.M.]; PALFIY, F.Yu.

Effect of lactation on the biochemical composition of blood in
local black-and-white cows. Pratsi Inst. agrobiol. AN URSR 3 no.2:3-
17 '56. (MIRA 11:7)

(Lactation)
(Blood--Analysis and chemistry)
(Cows)

GZHITSKIY, S.Z.[Hzyts'kyi, S.Z.]; MOZGOVAYA, Ye. N.[Mozhova, I.E.M.]

Age variations in the phosphate content of cattle blood. Pratsi
Inst. agrobiol. AN URSR 3 no. 2:18-24 '56. (MIRA 11:7)
(Phosphorus in the body)
(Cattle--Physiology)
(Blood--Analysis and chemistry)

GZHITSKIY, S.Z.[Hzyts'kyi, S.Z.]; ZEMTSOVA, N.A.[Zemtsova, N.O.];
GOLOVATSKIY, I.D.[Holovats'kyi, I.D.]; PALFIY, F.Yu.

Biochemical investigations of cow blood in connection with milk
yields and parturient paralysis. Pratsi Inst. agrobiol. AN URSS
3 no. 2:25-38 '56. (MIRA 11:7)

(Cows--Diseases and pests)
(Blood--Analysis and chemistry)

GZHITSKIY, S.Z. [Hzyts'kyi, S.Z.]; SUKHOMLINOV, B.F.; GOLOVACH, V.N. [Holovach, V.M.];
SKOVRONSKAYA, Ye.V. [Skovrons'ka, IE.V.]

Characteristics of carbohydrate metabolism in swine. Pratsi Inst.
agrobiol. AN URSR 3 no. 2:39-44 '56. (MIRA 11:7)
(Swine--Physiology)
(Carbohydrate metabolism)

GZHITSKIY, S.Z.[Hzyts'kyi, S.Z.]; GOLOVACH, V.N. [Holovach, V.N.]; PUPIN,
I.G.[Pupin, I.H.]

Chronic hematuria in cattle. Pratsi Inst. agrobiol. AN URSR 3 :
no. 2:48-54 '56. (MIRA 11:7)

(Hematuria)

(Cows--Diseases and pests)

GZHITSKIY, S.Z.

21-4-24/24

AUTHORS: Gzhyts'kyy, S.Z., Corresponding Member of the Ukrainian Academy of Sciences, and Kusen', S.Y.

TITLE: Investigation of the Glycogen Level in the Cow Liver (Doslidzhennya rivnya hlikohenu pechinky u koriv)

PERIODICAL: Dopovidi Akademii Nauk Ukrain's'koi RSR, 1957, #4, pp 413-416 (USSR)

ABSTRACT: Extensive investigations were conducted on determining the glycogen concentration in liver samples of cattle obtained by means of biopsy. The glycogen concentration fluctuates from 0.595 to 4.327 %, being higher in winter than in summer. Individual fluctuations were also observed.

Administering of glucose into the blood (as well as administering glucose preceded by an injection of insulin) results in a double effect: an increase of the liver glycogen concentration with a low initial level, and a decrease when the level was rather high.

The regulation of the blood sugar level in cattle is probably

Card 1/2

TITLE: Investigation of the Glycogen Level in the Cow Liver (Doslidzhennya rivnya hlikohenu pechinky u koriv)

21-4-24/24

due to the great capacity of the liver for synthesizing sugar from volatile fatty acids.

The article contains 2 tables.

There are 10 references, 2 of which are Slavic.

INSTITUTION: Institute of Agriculture and Livestock Raising of the Ukrainian Western Regions

PRESENTED BY:

SUBMITTED: 2 October 1956

AVAILABLE: At the Library of Congress

Card 2/2

USSR/Diseases of Farm Animals - Diseases of Unknown Etiology.

R-3

Abs Jour : Ref Zhur - Biol., No 4, 1958, 16940

Author : Gzhitskiy, S.Z.; Golovach, V.N.; Pupin, I.G.; Palfiy,
F.Yu.; Kusen¹, S.I.

Inst : -

Title : On the Etiology of Chronic Hematuria of Cattle.

Orig Pub : Veterinariya, 1957, No 5, 44-46.

Abstract : The authors consider that the soil, water, and feed composition have no influence upon the development of hematuria. This is supported by the fact that the transfer of sick animals to some other place has no effect on the course of disease, and that disease occurs in countries with different soils and different fodder vegetation. According to the authors' opinion, the etiological agent of hematuria of cattle is to be looked for in some microorganisms of the soil. It is possible that these

Card 1/2

GERMANYUK, Ya.L.; GZHITSKIY, S.Z.; LETCHENKO, O.Yu.

The amide nitrogen of glutamine and blood proteins and indices of carbohydrate metabolism in horses after the introduction of ammonium chloride and glutamic acid [with summary in English]. Ukr.biokhim. zhur.29 no.2:213-220 '57. (MLRA 10:7)

1. Kafedra biokhimi L'vovskogo zooveterinarnogo instituta.
(BLOOD PROTEINS) (CARBOHYDRATE METABOLISM)
(AMMONIUM CHLORIDE) (GLUTAMIC ACID)

SOV/21-58-2-27/28

AUTHORS: ~~Gzhitskiy, S.Z.~~, Corresponding Member of the AS UkrSSR, and Kusen', S.Y.

TITLE: Methods of Liver Biopsy in Cattle (Metodika biopsii pecheni krupnogo rogatogo skota)

PERIODICAL: Dopovidi Akademii nauk Ukrain's'koi RSR, 1958, Nr 2, pp 228-229 (USSR)

ABSTRACT: Very little has been written about the application of biopsy to cattle. The reason for this has been the technical difficulty of obtaining pieces of an organ from live animals. Therefore an apparatus for performing biopsy was designed in a laboratory of the Scientific Research Institute of Agriculture and Cattle-Breeding in the Western Regions of the UkrSSR. The present article gives a description of this apparatus and of the method of its application for obtaining liver tissue from live cattle. The laboratory performed about 250 of these experiments, and liver samples were taken from some cows over ten times.

Card 1/2 There are: 1 photo and 8 references, 2 of which are Soviet, 1 German, 2 American, and 3 English.

Methods of Liver Biopsy in Cattle

SOV/21-58-2-27/28

ASSOCIATION: Nauchno-issledovatel'skiy institut zemledeliya i zhivotnovodstva zapadnykh rayonov UkrSSR (Scientific Research Institute of Agriculture and Cattle-Breeding in the Western Regions of the UkrSSR)

SUBMITTED: April 8, 1957

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

Card 2/2

GZHITSKIY, S.Z., prof.; GERMANIYUK, Ya.L., dots.; GOLOVATSKIY, I.D., kand.
biol.nauk; KIMASH, A.S., aspirant

Insulin in diseases of the alimentary canal in cattle. Veteri-
nariia 35 no.9:77-78 S '58. (MIRA 11:9)

1. L'vovskiy zooveterinarnyy institut i Institut zemledeliya i
zhivotnovodstva zapadnykh rayonov USSR.
(Insulin) (Cattle--Diseases and pests)

GZHITSKIY, S.Z. [Hzyts'kyi, S.Z.] (L'vov)

The use of insulin in veterinary medicine. Nauka i zhyttia 9
no.8:32-33 S '59. (MIRA 13:1)

1. Chlen-korrespondent AN USSR.
(Insulin--Physiological effect)
(Veterinary medicine)

GZHITSKIY, S.Z. [Hzyts'kyi, S.Z.], akademik

Biochemistry in the service of stockbreeding. Nauka i zhyttia
10 no.2:24 F '60. (MIRA 13:6)

1. AN USSR; zavednyushchiy otdelom biokhimi sel'skokhozyaystvennykh
zhivotnykh Nauchno-issledovatel'skogo instituta semledeliya i
zhivotnovodstva zapadnykh rayonov USSR, L'vov.
(Urea as feed)

GENITSKY, S. Z., ^IMEER, J. A. (USSR)

"The Amino-Acid Composition of Wool in Relation to the Quantity of Sulphur in the Food of the Sheep."

Report presented at the 5th Int'l. Biochemistry Congress,
Moscow, 10-16 Aug 1961

GOLOVATSKIY, Ivan Dmitriyevich [Holovats'kyi, I.D.], kand. biol. nauk;
GZHITSKIY, S.Z. [Hzyts'kyi, S.Z.], akademik, otv. red.;
MAZUR, V.M., red.; KVITKA, S.P., tekhn. red.

[Carbohydrate metabolism in farm animals] Obmin vuhlevodiv u sil'-
s'kohospodars'kykh tvaryn. Kyiv, Vyd-vo Ukrain's'koi akad. sil'-
s'kohospodars'kykh nauk, 1961. 209 p. (MIRA 16:1)

1. Chlen-korrespondent Akademii nauk Ukr. SSR i Ukrain's'kaya
Akademiya sel'skokhozyaystvennykh nauk (for Gzhitskiy).
(Carbohydrate metabolism) (Veterinary physiology)

GZHITSKIY, S.Z. [Hzyts'kyi, S.Z.]; DOVGAN', N.Ya. [Dovhan', N.IA.];
ROZGONI, I.I. [Rozhoni, I.I.]; SKOROKHOD, V.I. [Skorokhid, V.I.]

Effect of urea and sodium sulfate on fermentation processes in the
rumen of the cow. Ukr. biokhim. zhur. 33 no.1:101-106 '61.

(MIRA 14:3)

1. Research Institute of Agriculture and Animal Husbandry of the
Western Regions of the Ukrainian S.S.R.

(UREA)	(SODIUM SULFATE)
(STOMACH--MICROBIOLOGY)	(CATTLE--PHYSIOLOGY)

GZHITSKIY, S.Z. [Hzyts'kyi, S.Z.]

Effect of sodium fed to sheep on the yield and chemical composition
of wool. Ukr. biokhim. zhur. 33 no.3:326-331 '61. (MIRA 14:6)

1. Nauchno-issledovatel'skiy institut zemledeliya i zhivotnovodstva
zapadnykh rayonov USSR, L'vov.
(SODIUM SULFATE) (WOOL)

SKORODINSKIY, Z.P. [Skorodyns'kyi, Z.P.], otv. red.; BERKOVICH, Ye.M.,
prof., nauchn. sotr., red.; GZHITSKIY, S.Z. [Hzyts'kyi, S.Z.],
~~nauch. sotr., prof.~~, red.; MITSIK, V.Yu., red.; PUPIN, I.G.
[Pupin, I.G.], red.; SHOVKUN, V.Yu., red.; PALFIY, F.Yu., red.

[Abstracts of reports of the First Scientific Conference of
Graduate Students] Tezy dopovidei Pershoi aspirants'koi na-
ukovoi konferentsii. L'viv, 1963. 62 p. (MIRA 17:2)

1. Ukrain's'kyi naukovo-doslidnyi instytut fiziologii i biokhi-
mii sil's'kohospodars'kykh tvaryn. 2. L'vovskiy zooveterinar-
nyy institut i Chlen-korrespondent AN Ukr.SSR (for Gzhitskiy).
3. Ukrainskiy nauchno-issledovatel'skiy institut fiziologii i
biokhimi sel'skokhozyaystvennykh ~~shivotnykh~~ (for Berkovich)

GZHITSKIY, S.Z. [Hzhys'ts'kyi, S.Z.]; LEMISHKO, A.M. [Lemishko, O.M.]; PAVLYUK, I.M.

Histochemical study of mucopolysaccharides in the rumen wall of cattle.
Dop. AN URSR no.1:89-91 '64. (MIRA 17:4)

1. Ukraïnskiy nauchno-issledovatel'skiy institut fiziologii i biokhimi
sel'skokhozyaystvennykh zhivotnykh. 2. Chlen-korrespondent AN UkrSSR (for
Gzhitskiy).

GZHITSKIY, S.Z. [Hzhys'ts'kyi, S.Z.]; VOL'SKIY, N.N. [Vol's'kyi, M.M.]

Effect of insulin on phosphate excretion by the "little
rumen" wall in cattle. Dop. AN URSR no.8:1092-1094 '64.
(MIRA 17:8)

1. Ukrainskiy nauchno-issledovatel'skiy institut fiziologii i
biokhimii sel'skokhozyaystvennykh zhivotnykh. 2. ~~Chlen~~-
korrespondent AN UkrSSR (for Gzhitskiy).

GZHITSKIY, S.Z. [Izhyts'kyi, S.Z.]

Recent data on the biological function of the rumen in cattle.
Fiziol.zhur. [Ukr.] 11 no.4:444-447 J1-Ag '65.

(MIRA 18:10)

1. Kafedra biokhimii L'vovskogo zooveterinarnogo instituta.

CEKWIANIAN, MIKOŁAJ; GZIK-CHLEBOWSKA, Zofia

Primary carcinoma planocellulare of the bronchus of the median lobe proceeding with infiltration of the epicardium and pericardium and numerous metastases to other organs. Przegl. lek. 21 no.6:438-441 '65.

1. Z Oddziału Pneumologicznego Państwowego Sanatorium Przeciw-gruzliczego w Tuszyńku (Dyrektor: Dr. med. M. Czekwianian).

GZHITSKY, S.Z., SKOR-KHOD, V.I., DOVGAN, N.YA., ROZCONI, I.I., VRYDNYK, F.I.
LACODYUK, F.Z. (USSR)

"The conditions of Maintaining the Chemical Medium in the
Rumen in Ruminants."

Report presented to the 5th Int'l Biochemistry Congress ,
Moscow, 10-16 Aug. 1961.

L 8609-66 EWT(c)/EWP(1) IJP(c) BB/CG

ACC NR: AR5014362

SOURCE CODE: UR/0271/65/000/005/B045/B045

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika.
Svodnyy tom, Abs. 5B330

AUTHOR: Belina, A. S.⁴⁴ Gzhiynovich, Ye.⁴⁴ Podgurskiy, G. S.⁴⁴ 41
B

TITLE: Manual data-input device 16C, 44

CITED SOURCE: Sb. Ustroystva i elementy prom. telemekhan. Kiyev, 1964,
87-91

TOPIC TAGS: information storage, digital computer

TRANSLATION: A manual device is used for transmitting sporadic information
from various process stations to a dispatcher's station and for harmonizing the
information-transmission time with the cyclic operation of the system. The
manual device intended for the dispatcher's station of a blast-furnace department

Card 1/2

UDC: 681.142.62
2

IZHUROV, G., and others.

"Treatment of Lung Tuberculosis with Tubigal; Early Results." p. 2,
(ZDRAVEN FRONT, No. 46, Nov. 1954, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (ZEAL), LG, Vol. 4
No. 5, May 1955, Uncl.

GZIBERE, T.

Computation method for the design of straight airfoil lattices
with strongly curved profile blades. I. Acta mechn Hung 28 no.1/2:
43-71 "60. (EEAI 9:?)

1. "Ganz-Mavag" Lokomotiv-, Waggon- und Maschinenfabrik, Budapest.
(Lattice theory) (Airfoils)

GZIRISHVILI, A.Z.

Study of kidney functions by means of bioelectric currents. Seeb.
AN Gruz.SSR 8 no.9/10:669-676 '47. (MLRA 9:7)

1.Akademiya nauk Gruzinskey SSR, Institut eksperimental'noy i
klinicheskoy khirurgii i gematologii, Tbilisi. Predstavlena dey-
stvitel'nyy chlenom Akademii G.M.Mukhadze.
(KIDNEYS)

GAJINSEVILI, A. N. Prof.

"The Application of Radioactive Phosphorus for the Functional Diagnosis of Conditions of the Kidney," a report presented at the Transcaucasian Radiological Conference, Tbilisi, 28-31 Oct 55.

Sum. No. 1047, 31 Aug 56

GZIRISHVILI, A.Z.

Using P^{32} for studying kidney functions. Soob. AN Gruz. SSR 17 no.1:
65-72 '56. (MLRA 9:8)

1. Akademiya nauk Gruzinskoy SSR, Institut eksperimental'noy i klinicheskoy khirurgii i gematologii. Predstavleno deystvitel'nyy chlenom Akademii K.D. Bristavi.
(PHOSPHORUS--ISOTOPES)
(KIDNEYS)

OZIRISHVILI, A.Z., prof. (Tbilisi)

Development of urology in Georgia. Urologiia 23 no.2:48-52
Mr-Ap '58. (MIRA 11:4)

(UROLOGY
in Russia, progr. (Rus))

GZIRISHVILI, A.Z.

Classification of tuberculosis of the urogenital system. Urologia 24 no.1:
49-50 Ja-F '59 (MIRA 12:1)

1. Iz urologicheskogo otdeleniya Respublikanskoy tsentral'noy klinicheskoy
bol'nitsy (zav. - prof. A.Z. Gzirishvili) Ministerstva zdravookhraneniya
Gruzinskoy SSR.

(TUBERCULOSIS, UROGENITAL
classif. (Rus))

GZIRISHVILI, A.Z., prof. (Tbilisi)

Dyskinesia of the kidney pelvis and ureters. Urologia no.1:41-
43 '62. (MIRA 15:11)

(KIDNEYS—DISEASES) (URETERS—DISEASES)

GZIRISHVILI, A.Z.

Excretion in the urine of Br⁸² in nephrolithiasis. Trudy Inst.eksp.
i klin.khir. i gemat. AN Gruz.SSR 10:247-256 '62.

(MIRA 16:2)

(CALCULI, URINARY) (BROMINE ISOTOPES)

GZIRISHVILI, G.A.

Elimination of neutral red dies before and after gastrotomy.

Soob.AN Gruz.SSR 14 no.2:109-112 '53.

(MLRA 7:5)

1. Akademiya nauk Gruzinskoy SSR Institut eksperimental'noy i klini-
cheskoy khirurgii i gematologii, Tbilisi. Predstavleno deystvitel'ny
chlenom Akademii K.D.Eristavi. (Stomach--Secretions)

GZIRISHVILI, G.A.

On gastric secretions induced by irritation of the mechanical receptors of the stomach. Soob. AN Gruz. SSR 15 no.6:377-383 '54. (MLRA 8:6)

1. Akademiya nauk Gruzinskoy SSR, Institut eksperimental'noy i klinicheskoy khirurgii i gematologii, Tbilisi. Predstavleno daystvitel'nym chlenom Akademii K.D. Nristavi. (Gastric juice)

GZIRISHVILI, G.A.; KIGURADZE, E.Sh.

Effect of stimulating the interoceptors of the stomach on the peripheral blood picture and the mechanism of leucocyte development. Soob. AN Gruz. SSR 15 no.8:543-549 '54. (MLRA 8:9)

1. Akademiya nauk Gruzinskoy SSR, Institut eksperimental'noy i klinicheskoy khirurgii i gematologii, Tbilisi. Predstavleno deystvitel'nyy chlenom Akademii K.D.Kristavi.
(Receptors (Neurology)) (Leucocytes)

GZIRISHVILI, G.A.

Quantitative changes in blood chlorides as a result of vagus nerve severance. Soob.AN Gruz.SSR 16 no.6:483-487 '55. (MLRA 9:2)

1.Akademiya nauk Gruzinskoy SSR, Institut eksperimental'noy i klinicheskoy khirurgii i gematologii, Tbilisi. Predstavleno deystvitel'nyy chlenom Akademii K.D.Bristavi.
(Blood--Analysis and chemistry) (Vagus nerve)

AKHMETELI, L.I.; GZIRISHVILI, G.A.

Micromorphological changes in kidneys following bilateral vagotomy.
Soob.AN Gruz.SSR. 17 no.5:451-454 '56. (MIRA 9:9)

1.Akademiya nauk Gruzinskoy SSR, Institut eksperimenta'noy i klini-
cheskoy khirurgii i gematologii, Tbilisi. Predstavleno akademikom
K.D.Eristavi.

(KIDNEYS) (VAGUS NERVE)

GZIRISHVILI, G.A.

Total nitrogen in gastric juice before and after vagotomy. Soeb.
AN Gruz. SSR. 17 no.6:545-548 '56. (MIRA 9:10)

1. Akademiya nauk Gruzinskoy SSR, Institut 'eksperimental'noy i
klinicheskoy khirurgii i gematologii, Tbilisi. Predstavleno akade-
mikom K.D. Bristavi.
(GASTRIC JUICE) (VAGUS NERVE)

UESR/Human and Animal Physiology. Digestion.

T

Abs Jour: Ref Zhur-Biol., No 8, 1958, 36529.

Author : Gzirishvili, G. A.
Inst : Institute of Experimental and Clinical Surgery and Hematology.
Title : The Problem of the Excretory Function of Various Parts of the Stomach.

Orig Pub: Tr. In-ta eksperiment. i klinich. khirurgii i gematol. A.N. GruzSSSR, 1957, 7, 205-211.

Abstract: The excretory function of the mucosa in dogs with an isolated Pavlov stomach in the fundus and Basov fistula in the greater stomach is constant for all the parts of the stomach, but is lower in fundic part. Stimulation of the isolated stomach for a period of 10-15 days with a solution of AgNO_3 at first increased the secre-

Card : 1/2

GZIRICHVILL, G.A., Card "Sci--(disc' "in the problem of the ex-
cretory function of the stomach. (Experimental clinical study)."

Travnik, 1944. 25 pp (Scientific literature), 100 copies (11,00-30,
113)

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GJIRISHVILI, G.A.

Treatment of tumors of the urinary bladder with radioactive phosphorus. Trudy Inst.eksp.i klin.khir.i gemat. AN Gruz.SSR 10:257-260 '62. (MIRA 16:2)

(BLADDER—CANCER) (PHOSPHORUS—ISOTOPES)

GZIRISHVILI, N.A.; TSIRLADZE, K.I.

Quantity of cell nuclei, water and chlorine in the liver of rabbits under normal conditions and in experimental cholesterol atherosclerosis. Soob. AN Gruz. SSR 32 no.3:1872-1878 D 163.

(MIRA 15:11)

GZIRISHVILI, N.A.

Change in the quantity of urea and chlorides in the blood and
urine following gastric secretion. Soob. AN Gruz. SSR 38 no.3:
685-690 Je '65. (MIRA 18:12)

YAKOBASHVILI, S.B.; MIKABERIDZE, R.G.; TARIYELASHVILI, M.G.; GZIRISHVILI, T.V.

Surface tension of AN-291 and AN-292 fluxes. Avtom.svar. 18
no.11:77-78 N '65. (MIRA 18:12)

GZLKIN, O.P.; GRIGOR'YEV, V.S.

Instruments for plotting refracted rays. Akust.zhur. 6 no.1:23-29
'60. (MIRA 14:5)

1. Akusticheskiy institut AN SSSR, Moskva.
(Sound waves)

GZOTTNER, Sandor, okl. banyamernok

The role and significance of mining in the Hungarian national economy.
Bany lap 93 no. 11:735-739 N 60.

1. Nehezipari miniszter.

GZOVSKIY, M. V. Cand. Geol&g-Mineralog Sci.

Dissertation: "Connection Between Folding and Vibratory Movements on the Example of the Little Caucasus." Moscow Geological Prospecting Inst. imeni S. Ordzhonikidze. 7 May 47.

SO: Vechernyaya Moskva, May 1947 (Project #17836)

1. GZOVSKIY, M. V. and BELOUSOV, V. V.
2. USSR (600)
4. Akstafa Valley - Geology, Structural
7. Geological structure of the basin of the middle course of the Akstafa River (northern Armenia). Abstract Izv. Glav.upr.geol.fon. No. 3, 1947.
9. Monthly List of Russian Accessions. Library of Congress, March 1953. Unclassified.

GZOVSKIY, M. V.

"Present State of Some Fundamental Concepts in the Study of Geosynclines,"
Byul. Mosk. Obshch. Ispytat. Prirody, Otdel. Geol., 23, No. 4, 1948.

BELOUSOV, V.V.; GZOVSKIY, M.V.; GORYACHEV, A.V.

Structure of the Eastern Alps in connection with general tectonic
concepts. Biul. MOIP. Otd. geol. 26 no.1:46-68 '51. (MIRA 11:5)
(Alps, Eastern--Geology, Structural)

GZOVSKIY, M.V.

BELOUSOV, V.V.; GZOVSKIY, M.V.; GORYACHEV, A.V.

Structure of the Eastern Alps in connection with general tectonic
concepts. Article 2: Pre-Quaternary history of the Eastern Alps.
Bul. MOIP. Otd. geol. 26 no.2:50-69 '51. (MIRA 11:5)
(Alps, Eastern--Geology, Stratigraphic)

GZOVSKIY, M.V.

"Waviness of the strike of major Tectonic fractures", Izv. AN SSSR, ser. geofiz.
News of the Academy of Sciences of the USSR, Geophysical Series, No 2, 1953.

The course of large, steep tectonic fractures are characterized by regular waviness, which explains their formation. Explains that many small fractures of flat or bent forms formed first and later an amalgamation of individual fractures of various extension were formed in a large seam which resulted in the formation of subject waviness. States that information is valuable for mining and prospecting work.

254T74

200.111, 1.7.

USSR/Geophysics - Tectonic Fractures Nov/Dec 53

"Modeling the Expansion Waves of Large Tectonic Fractures," M. V. Gzovskiy and Ya. I. Chertkova, Geophys Inst, Acad Sci USSR

Iz Ak Nauk SSSR, Ser Geofiz, No 6, pp 481-499

Describe expts clarifying the mechanism governing the formation of fractures and the formation of waves occurring during expansion. Briefly describes the problem of detg how the curvature of individual surface cleavages occurred.

273T82

GEOPHYSICS, A. I.
USSR/Geophysics - Tectonic physics

Card 1/1

Author : Gzovskiy, M. V.

Title : Tasks and contents of "tectonophysics"

Periodical : Izv. AN SSSR, Ser. geofiz. 3, 244-263, May/Jun 1954

Abstract : Attempts to determine tasks, contents and direction of development of tectonophysics (tectonicophysics). Notes the basic stages of its development. Treats the closest particular problems of tectonophysics that are connected with the development of its physical foundations and with the study of the mechanism governing the formation of abrupt jumps and tectonic discontinuities. 26 references-23 Soviet; all but two are postwar.

Institution : Geophysics Institute, Acad Sci USSR

Submitted : January 22, 1954

OZOVSKIY, M.V.

Tectonic field stresses. Izv. AN SSSR Ser.geofiz. no.5:390-410
S-0 '54. (MLRA 7:9)
(Geology, Structural)

GZOVSKIY, M.V.

USSR/Geophysics - Tectonics Modeling

FD-1192

Card 1/1 Pub. 45-3/8

Author : Gzovskiy, M. V.

Title : Modeling of tectonic fields of stresses and discontinuities

Periodical : Izv. AN SSSR, ser. geofiz., No 6, 1954, pp 527-545

Abstract : The author examines the possibilities of modeling fields of stresses and discontinuities. He derives general conditions for similarity, and presents results of an investigation of models of anticlines of a transverse fold. The author thanks the following for their assistance: L. S. Eygenson, N. V. Zvolinskiy, G. N. Kuznetsov, P. M. Tsimbarevich and V. F. Trumbachev.

Institution : Geophysics Institute, Acad. Sci. USSR

Submitted : August 24, 1953

GZOVSKIY, M.V.

BELOUSOV, V.V.; GZOVSKIY, M.V.

Tectonic conditions and the mechanism of earthquake formation.
Trudy Geof.inst. no.25:23-35 '54. (MLRA 7:12)
(Earthquakes) (Seismology)

GZOVSKIY, M.V.

Principal problems of classification of tectonic faults.
Sov.geol. no.41:131-169 '54. (MIRA 8:6)
(Faults (Geology))

GZOVSKIY, M.V.

Concerning G.I. Gurevich's review. Izv.AN SSSR.Ser.geofiz. no.4:
487-493 Ap '56. (MLBA 9:8)
(Geology, Structural)

GZOVSKIY, M.V.

Mechanisms in the formation of complex tectonic profiles.
Razved. i okh. nedr. 22 no. 7: 1-14 J1 '56. (MLRA 9:11)

1. Institut fiziki zemli Akademii nauk SSSR.
(Geology, Structural) (Earth movements)

GZOVSKIY, M.V.

Relations between tectonic faults and strains in the earth's
crust. Razved. i okh.nedr 22 no.11:7-22 N '56. (MLRA 10:1)

1. Institut fiziki zemli Akademii nauk SSSR.
(Faults (Geology)) (Earth movements)

GZOVSKIY, M.V.

BALAKINA, L.M.

X(10)

PHASE I BOOK EXPLOITATION

80V/1663

Akademiya nauk SSSR, Komitet po geodesii i geofizike.

Tezisy dokladov na XI General'noy assemblye Mezhimirodnogo geodeticheskogo i geofizicheskogo soyuza. Mezhimirodnaya assotsiatsiya seismologii i fiziki pod zemlei (Abstracts of Reports Submitted to the XI General Assembly of the International Union of Geodesy and Geophysics. The International Association of Seismology and Physics of the Earth's Interior) Moscow, 1977. 108 p. /Parallel texts in Russian and English/ 1,500 copies printed.

No additional contributors mentioned

PURPOSE: This booklet is intended for geophysicists, especially those specializing in seismology.

COVERAGE: This collection of articles deals with the structure and composition of the Earth and phenomena related thereto. The majority of the articles concern studies of earthquakes and seismic waves. Other articles cover the structure of the Earth's crust and mountain roots; the elastic properties of rocks at high pressures; the piezoelectric effect of rocks and the method of modelling in tectonophysics. The collection also contains articles on the Earth's thermal history, the microseismic method of tracing stress and strain.

Volokovich, M.P. and B.I. Parfenchenko. Piezoelectric Effect of Rocks	29
Vaynsman, F.S., I. P. Kominskaya, and Ya. V. Rikhsichenko. New Evidence on the Structure of the Earth's Crust and Mountain Roots in Central Asia From Seismic Depth Sounding Data	31
Gzovskiy, M.V. Method of Modelling in Tectonophysics	37
Gorshkov, G.P. Seismic Intensity Regions of Asia	42
Davydov, B.I. Physical Properties of Solid Bodies at High Pressures	43
Kaylis-Berch, V.I. Investigation of Earthquake Mechanism	46
Kaylis-Berch, V.I. Dynamic Methods of Investigating the Earth's Crust and Internal Structure (Theory, Electronic Computations and Practical Tests)	51
Karav, Ya.V. Absorption of Elastic Waves in Rocks	55
Card 3/5	

GZOVSKIY, M. V.

"On the Characteristics of the Physico-Mechanical and Optical Properties of Concentrated Solutions of Ethyl Cellulose and Benzyl Alcohol," D. N. Osokina in collaboration with V. P. Pavlov, G. V. Vinogradov, and M. V. Gzovskiy (reported on the usefulness of this plastic, optically active material for the modeling of tectonic processes, _

paper presented at the First All-Union Conference on Tectonophysics, Moscow, 29 January through 5 February 1957.

Inst. of Physics of the Earth, Acad. Sci. USSR

GZOVSKIY, M. V.

"The Theoretical Basis, New Methods, and Results of Modeling Tectonic Processes," paper presented at the First All-Union Conference on Tectonophysics, Moscow, 29 January through 5 February 1957.

Institute of Physics of the Earth, Academy of Sciences

Sum 1563

42

AUTHOR: Gzovskiy, M. V.

TITLE: Tectonophysical explanation of the geological criteria of seismicity. Part I. (Tektonofizicheskoe obosnovanie geologicheskikh kriteriyev seysmichnosti. I).

PERIODICAL: Izvestiya Akademii Nauk, Ser. Geofizicheskaya, 1957, No.2, pp. 141-160 (U.S.S.R.)

ABSTRACT: The physics of geological criteria of seismicity are described and their importance is pointed out in complex geological-geophysical forecasting of earthquakes. In this paper the author is concerned only with the tectonophysical point of view of considering the geological criteria of seismicity. He defines as the geological criteria of seismicity of a given region the geological characteristics of the degree of seismic danger characterised by the maximum force of future seismic tremors and their anticipated recurrence as a function of time.

Card 1/4

be necessary to change over to a more accurate forecasting based on the knowledge of the present state of the depths of the Earth and on the tendency of development of deformations and stresses.

Card 2/4 APPROVED FOR RELEASE: 09/17/2001

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42

TITLE: Tectonophysical explanation of the geological criteria of seismicity. Part I. (Tektonofizicheskoe obosnovanie geologicheskikh kriteriyev seysmichnosti. I).

In regions which have not been adequately studied, it will be advisable to carry out regional geological investigations together with seismo-statistical investigations so as to detect within the shortest possible time regions for which the largest average speed gradients of new and present-day vertical movements of the Earth's crust take place and where earthquakes did already occur; in these regions the existence of increased tangential stresses is most likely and these regions should be considered as the most dangerous from the point of view of seismicity. In regions which have been studied more extensively in the past, it is necessary to carry out tectonophysical field work and investigations on models, with the aim of arriving at a hypothesis on the most probable distribution of the maxima, their internal structure and trend of development.

Card 3/4

49-3-1/16

AUTHOR: Gzovskiy, M.V.

TITLE: Tectono-physical justification of geological seismicity criteria. II. (Tektonofizicheskoye obosnovaniye geologicheskikh kriteriyev seysmichnosti. II)

PERIODICAL: "Izvestiya Akademii Nauk, Seriya Geofizicheskaya" (Bulletin of the Ac.Sc., Geophysics Series), 1957, No.3, pp.273-283 (U.S.S.R.)

ABSTRACT: Tectono-physical investigations relating to the forecasting of earthquakes consist in studying natural deformations and fractures in the Earth's crust and appropriate model studies aimed at elucidating the relations governing the distribution of those stresses which are linked with changes in the structure of the Earth's crust and bring about fractures and earthquakes. The necessity of carrying out such investigations has been expounded by the author in the first part of this paper (same journal, No.2, pp.141-160) in which the physical meaning of geological criteria of seismicity was determined and the importance was pointed out of developing a hypothesis which links the energy and the repetition of earthquakes in time with geological seismicity criteria. In this paper such a hypothesis is presented by the author and is expressed mathematically by

Carl 1/4

APPROVED

49-3-1/16

Tectono-physical justification of geological seismicity criteria. II. (Cont.)

necessary to determine the contours of the assumed regions of maxima of tangential stresses, to evaluate approximately by using eq.(5) the relative magnitude of the maximum tangential stresses acting inside the maxima zones and to indicate the genetic types and the maximum dimensions of the fractures which develop and can be anticipated in these regions. The seismostatic data should be compared with: the magnitude of the deformation structural elements of the Earth's crust and the tectonic fracture associated with them; the gradients of the average speed of recent tectonic movements of the Earth's crust; the history and direction of the development of structural elements of the Earth's crust; the types and periods of tectonic fractures associated with certain structural elements of the crust which can either be observed on the surface or can be assumed existing at depths. It is necessary to intensify investigations relating to the mechanical properties of rocks and their dependence on pressure from all sides, temperature and duration of stress application. It is necessary to study the mechanism of formation of tectonic fractures and the influence of fractures on the stress state in their neighbourhood for

Card 3/4

Gzovskiy, M. V.

49-7-13/14

AUTHOR: Gzovskiy, M. V.

TITLE: Conference on tectonophysics. (Soveshchaniye po tektonofizike)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya,
1957, No.7, pp.959-965 (USSR)

ABSTRACT: On a small scale, tectonophysical investigations have been carried out for a long time in the U.S.A. and France. During the last two decades rapid developments have been made in this field in the U.S.S.R., China and Czechoslovakia. Since there has been no cooperation between the scientific organizations and the individual scientists working in the Soviet Union in the field of tectonophysics, there has also been no adequate coordination and there has been a great divergence both in the programme of investigations and in the interpretation of factual data. The Institute of Physics of the Earth of the Ac.Sc. USSR (Institut Fiziki Zemli AN SSSR) has organised the first All Union conference on tectonophysics, which had the following aims: to formulate more precisely the tasks of the tectonophysical investigations; to elucidate the problems which are of greatest interest from the point of view of applied geology; to outline the most promising methods of tectonophysical investigations; to improve the relations between individual research workers

Card 1/18

Conference on tectonophysics. (Cont.)

49-7-13/14

working in various directions of tectonophysics and neighbouring problems of physics of tectonics. The conference was held at the Institute of Physics of the Earth, Ac.Sc. U.S.S.R. in Moscow between January 29 and February 5, 1957 with the participation of about 496 people representing 121 scientific and executive organizations in Moscow, Leningrad, Kiev, Lvov, Dnepropetrovsk, Voronezh, Novocherkassk, Saratov, Kazan, Krasnodar, Baku, Tbilisi, Yerevan, Tashkent, Alma-Ata, Frunze, Tomsk, Omsk, Irkutsk, Magadan and other towns. The greatest number of people were representatives from the establishments of the Ac.Sc. of the U.S.S.R. and other republics, the Ministry of Geology and Conservation of Mineral Resources (Ministerstvo Geologii i Okhrany Nedr SSSR), the Ministry of Non-Ferrous Metallurgy (Ministerstvo Tsvetnoy Metallurgii SSSR) and the Ministry of Higher Education (Ministerstvo Vysshego Obrazovaniya SSSR). The conference was also attended by specialists from China and Czechoslovakia who were at the time in Moscow. Twenty-nine detailed papers were read by specialists on physico-mechanical properties of rocks, on geological conditions of formation of folds and fractures in the Earth's crust, the structure of ore and coal deposits,

Card 2/18

Conference on tectonophysics. (Cont.)

49-7-13/14

engineering geology, analysis of the microstructure of rocks, of solid body physics, of physico-chemical mechanics and of the theory and methods of modelling physical phenomena and tectonic processes. Fifty-five contributions were made in the discussions. Such a detailed evaluation of problems of tectonophysics by a large number of geologists, geophysicists, physicists and physical chemists has never taken place, neither in the U.S.S.R. nor abroad. According to the general opinion of the delegates, the conference was extremely fruitful.

Much attention was paid to the study of the mechanical properties of rocks.

M. P. Volarovich (Institute of Physics of the Earth Ac.Sc., U.S.S.R.) reported on modern methods and results of the study of the physical and mechanical properties of rocks in the case of various pressures from all sides. The dependence of the modulus of elasticity of rocks of the stresses in them was characterized and the results were given of experiments indicating the possibility of disruption of an explosive nature of various sedimentary and eruptive rocks. B. V. Zaleskiy and Yu. A. Rozanov, Institute of Geology of Ore Deposits Ac.Sc. U.S.S.R. (Institut Geologii Metlorozhdeniy Poleznykh Iskopayemykh AN SSSR) devoted his paper to

Card 3/18

49-7-13/14

Conference on tectonophysics. (Cont.)

the dependence of the physico-mechanical properties of rocks on their lithological and petrographic properties. He has shown that the properties of the rock are influenced appreciably by their porosity, grain size, mineralogical composition and the character and the composition of the binding material. In the two papers a number of problems were discussed relating to the technique and tasks of further investigations. These were also dealt with in papers concerning other subjects and in a number of contributions to the discussions (P. A. Rebinder, Ya. B. Fridman, G. N. Kuznetsov, N. V. Mikhaylov, A. V. Stepanov, N. I. Borodayevskiy, I. V. Popov, M. V. Gzovskiy) and at meetings of groups of specialists who were the most interested in developing a given direction of investigations. A general opinion became crystallised on the necessity of paying particular attention to processes of deformation and disruption of rocks during various stress states and temperatures.

A. V. Stepanov, Physico-Technical Institute, Ac.Sc. U.S.S.R. (Fiziko-Tekhnicheskii Institut AN SSSR) reported on the study of the physico-mechanical properties of non-uniform and anisotropic media. It was pointed out that for further

Card 4/18

Conference on tectonophysics. (Cont.)

49-7-13/14

development of tectonophysics, it is important to develop methods of studying the plastic and strength properties of non-uniform layers of rocks under their natural conditions. New conceptions on the general relations of deformation and disruption of various solid and liquid bodies which also extend to rocks were reported in the papers of P. A. Rebinder and Ya. B. Fridman.

P. A. Rebinder, Institute of Physical Chemistry, Ac.Sc., USSR (Institut Fizicheskoy Khimii AN SSSR) dealt with the general dependence of the toughness (viscosity) of materials on the magnitude of their tangential stresses and on the types of the secondary structures of various bodies determining the deformation and the strength properties of the medium. He directed attention to the existence of four types of secondary structures in rocks, namely: dense crystalline (eruptive) rocks; loose crystalline rocks and particularly sulphates, carbonates and chlorides of chemical origin; condensation rocks (opal, cements of sedimentary rocks); coagulations of various densities (clay rocks and soils). The importance was emphasized of measurements of the kinetics of the development of deformation and disruption of rocks as a result of long duration effects of constant stresses,

Card 5/18

49-7-13/14

Conference on tectonophysics. (Cont.)

since this permits determination of all the fundamental characteristics of deformation and strength properties of the material.

Ya. B. Fridman, Moscow Engineering-Physical Institute (Moskovskiy Inzhenerno-Fizicheskiy Institut), emphasized the importance of clear determination of the local nature of disruption of rocks. He proposed classification as follows: disruption of the III-type (sub-microscopic fractures of a length of several hundred times the parameters of the crystal lattice, i.e. tenths of a micron; type II disruptions (microscopic disruptions of tenths and hundredths of a mm, i.e. commensurate with the dimensions of the grains composing the polycrystalline material, particularly the rock); type I disruptions (macroscopic disruptions, the length of which is larger by several orders of magnitude than the dimensions of the structural elements of the material, the rock grains, and can be large enough for disrupting completely the investigated specimen or body. It was pointed out that large tectonic fractures of a size of several orders of magnitude larger than the thickness of the individual crack layers of uniform composition should be considered as a disruption of a special type. Attention

Card 6/18

Conference on tectonophysics. (Cont.)

49-7-13/14

was drawn to the development with time of the process of disruption and to transition from type III to type II and type I disruptions. He considered it necessary to distinguish two stages of disruption, one caused by evolution over a long period and the other of the spontaneous avalanche type which leads to the final forming of the fracture. According to the author, change-over to the second stage is determined not only by the properties of the material but also by the dimensions and the shape of the body, the stress state in the non-disrupted part of its cross section and also the inertia, potential energy of the elastic deformation and the elasticity (rigidity) of those bodies which transmit the forces to the body being fractured. All these factors influence the magnitude of the stresses acting in the field of disruption during the second stage. The author proposed that it should also be investigated whether the strength and the nature of earthquakes do not depend on the density of the potential energy of elastic deformation in the hypocentre of the tremor and whether the elastic properties of the rocks and the dimensions of the tremor do not affect the amount of earthquake energy.

Card 7/18

49-7-13/14

Conference on tectonophysics. (Cont.)

L. S. Eygenson, Moscow Power Institute (Moskovskiy Energeticheskiy Institut), dealt with the general principles of simulating, on models, of physical processes. For materialising similarity of phenomena in models and in nature it is necessary and sufficient to fulfil conditions which ensure identity for the model and for the natural object of the dimensionless solution of dimensionless equations describing the studied process. The author emphasized that this method can be successfully applied also in cases in which it is not possible to comply with all the theoretically derived conditions of analogy but only with the main conditions of analogy.

M. V. Gzovskiy (Institute of Physics of the Earth, Ac.Sc., USSR, gave a theoretical justification of new methods and certain results of simulating on models of tectonic processes. On the basis of conceptions elucidated in previous papers, the conditions of analogy were determined by analysing those equations which are widely used in physico-chemical mechanics which describe the development of deformations (taking into consideration the dependence of the viscosity on the stresses) and fracture (taking into consideration its dependence on the duration of the action of the stresses).

8/18

49-7-13/14

Conference on tectonophysics. (Cont.)

Utilisation of these equations corresponds most closely to the results of laboratory investigations of rocks. As a result of special investigations by means of new instruments it was found that a number of materials possess the physico-mechanical properties which should exist on the basis of analogy conditions in the models. Thus, it was proved that it is not only theoretically conceivable but also practically possible to simulate on models tectonic phenomena. A elastically deforming model from a concentrated solution of ethyl cellulose in benzyl alcohol was demonstrated in which the stress distribution was determined by optical methods. Examples were given of applying the method of simulation on models for verifying theoretically derived physical conditions of folds of longitudinal bending and longitudinal flattening and for elucidating the possible shapes, volumes and relative activities of seismic tremors connected with rises of the Earth's crust due to various causes.

Card 9/18

D. N. Osokina (Institute of Physics of the Earth) gave results of work carried out by her and V. P. Pavlov, G. V. Vinogradov and M. V. Gzovskiy; a detailed characteristic was given of the physico-mechanical and optical properties of the concentrated solutions of ethyl cellulose